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ANATOMIA PATOLÓGICA HOSPITAL FERNANDO FONSECA EPE

INTRAOPERATIVE CONSULTATION QUALITY ASSESSMENT

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Introduction/Aim:

Intraoperative consultation (IC) provides information that helps surgeons to perform appropriate surgical procedures. Indications for IC (driven by the surgeon's needs) are: to establish/ confirm a diagnosis, evaluation of surgical margins, adequacy of incisional biopsies, staging for malignant tumors and acquire fresh tissue for ancillary studies.[1-3] Correlation between intraoperative diagnosis (ID) and final diagnosis (FD) is an important quality indicator.[2] Turnaround-time (TAT) is also considered an important quality marker.[1] Quality control of IC should be part of every quality assurance programs in Pathology Departments.[1]

Our aim is evaluate IC diagnostic concordance (DC) and average TAT of all the cases during one-year period.

Methods:

We reviewed all IC specimens at our Pathology Department during 2012 and evaluate: specimen's type; surgical requests; pathology procedures; correlation between ID and FD (paraffin blocks) – DC, disagreements and deferrals; DC and pathology procedure's correlation - gross examination (GE), frozen sections (FS) and cytology (CT); TAT (overall and technical-time).

Results:

In 2012, we performed 173 IC from 132 patients (123 female / 9 male) - 1% of all cases of our department (17.709). The most frequent specimens were: lymph node (54), breast (40) and uterus (26) - **Figure 1**. The most important pathology procedure was FS (76) - **Figure 2**. IC were requested for staging for malignant tumors (total=86; 56 for lymph node metastasis); diagnosis (47); margin's evaluation (40) - **Figure 3**. Diagnosis was deferred in 10 cases: for diagnosis (8), margins evaluation (1) and detection of lymph node invasion for staging (1). In these 10 cases we used FS (7), GE (2) and CT (1). The deferred/ disagreement ratio was 2 (10:5). Total DC, excluding deferral, was 96.9%, mainly in FS (68) - **Figure 4**. The 5 disagreement cases (3.07%) were most frequently due to GE and false-negative results (4) were more frequent than false-positive diagnosis (1) - **Table 1**. Sensitivity and specificity were, respectively, 91,3% and 99,1%. Average TAT was 19.81 minutes (min), 10.28 min - average technical time; FS was the slowest, with an average TAT of 22.5 min - **Figure 5** -, according to the number of sections needed (1 – 3 sections) - **Figure 6**.

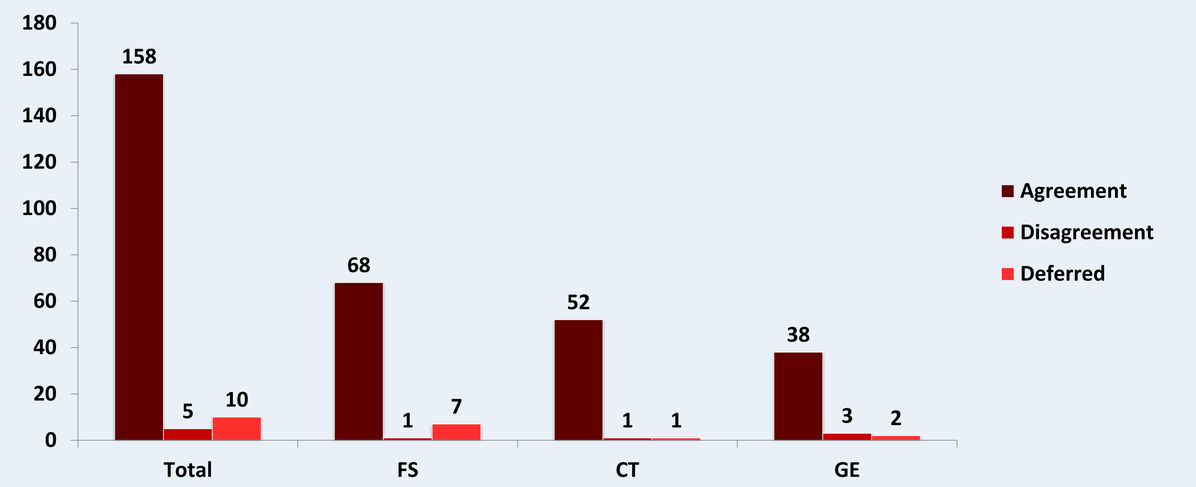

Figure 4 –Distribution of agreement, disagreement and deferred cases by pathology procedure applied for intraoperative consultation - frozen section (FS); cytology (CT); gross examination (GE).

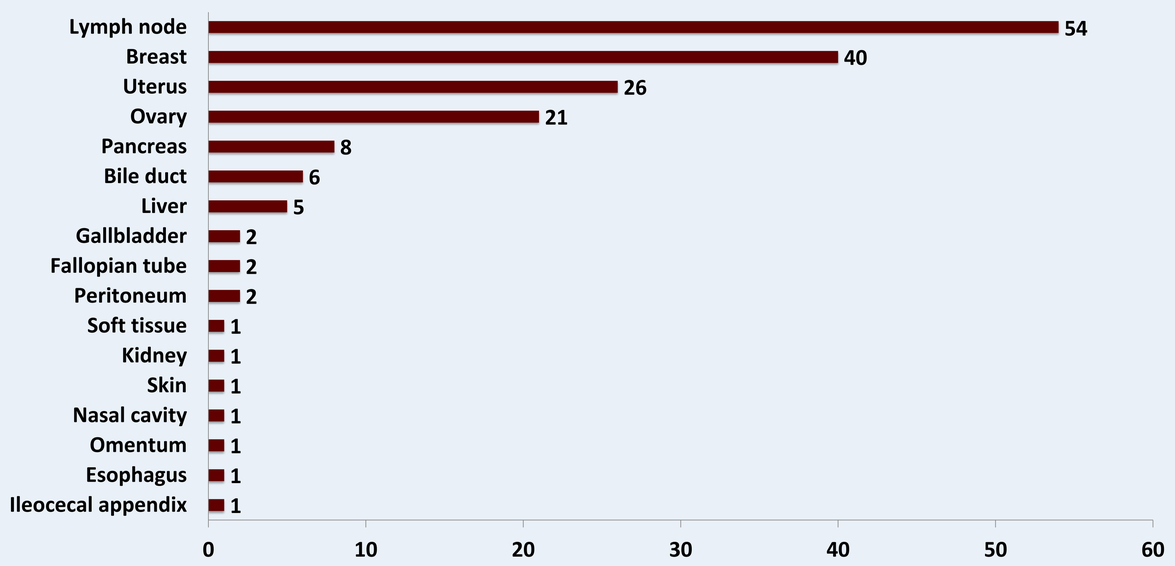

Figure1 - Distribution of intraoperative consultations by type of specimen.

Specimen	Surgical request	Pathology procedure	ID	DD
Breast	Evaluate margins	GE	Positive margin	NST invasive carcinoma Clear margin
Breast	Evaluate margins	GE	Clear margin	NST invasive carcinoma Positive margin
Uterus	Staging	GE	Without myometrium invasion	Endometrial carcinoma invasion of over one-half of the myometrium
Pancreas	Diagnosis	FS	Without neoplastic cells	Adenocarcinoma
Lymph node	Staging (presence of neoplastic cells)	CT	Without neoplastic cells	Metastasis of breast lobular carcinoma

Table 1 – Disagreement cases description. Intraoperatory diagnosis (ID); definitive diagnosis (DD); frozen section (FS); cytology (CT); gross examination (GE); NST (no special type).

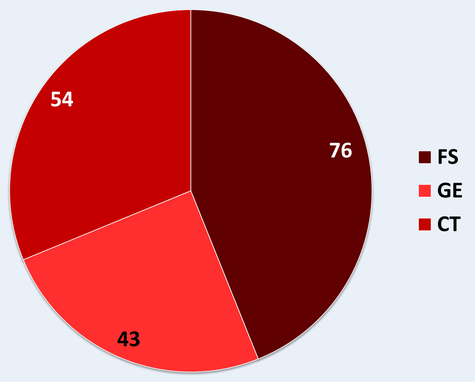

Figure 2 - Distribution of intraoperative consultation by pathology procedures applied: frozen section (FS) – 76; cytology (CT) – 54; gross examination (GE) – 43.

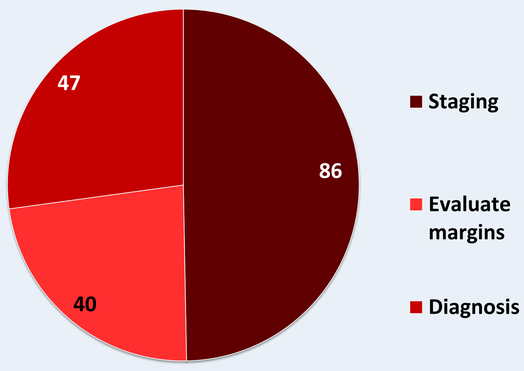

Figure 3 - Distribution of intraoperative consultation by surgical request: staging – 86; evaluate margins – 47; diagnosis – 40.

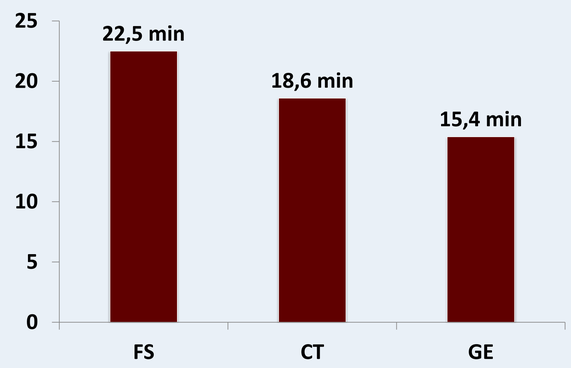

Figure 5 –Frozen section (FS); cytology (CT); gross examination (GE).

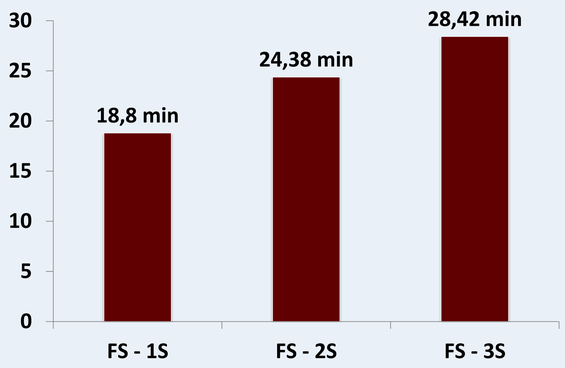

Figure 6 - Turnaround-time by the number of frozen sections (FS) carried out, respectively, one section (FS-1S), two sections (FS-2S) and three sections (FS-3S).

Conclusion:

Assessment of correlation between ID and FD is considered an important and valuable quality parameter. However, published literature is relatively rare. The large studies performed[4-6] showed ID/FD disagreement rates about 2% and a 2.03 differed/disagreement ratio. The difference between these data[4-8] and ours could be explained by different specimens, less deferred cases, technical issues, internal consultation and expert pathologists. CAP Q-Probes study disagreement cases were mainly false negative and due to interpretative and GE errors, similar to our results. The ID/FD comparison is a validity test with sensitivity and specificity being excellent statistical measures of the performance[1].

In our department IC is an excellent diagnostic test with high sensitivity and specificity values. Turnaround-time depends on the pathology procedure, amount of dissection and preparation required, complexity of cases and experience of the pathologist. One study reported that the result of a single FS lead 20 minutes in 90% of cases and, when multiple FS are performed on a single specimen, each section takes less than 20 minutes. CT takes less than 20 minutes and GE within 10-15 minutes.[7] Our TAT results were concordant with published data.

References:

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